UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,209	06/13/2000	DIRK INZE	2283/500	7531

7590 03/25/2002

ANN R. POKALSKY, ESQ.
NIXON PEABODY LLP
990 STEWART AVENUE
GARDEN CITY, NY 11530-4838

EXAMINER	
COLLINS, CYNTHIA E	

ART UNIT	PAPER NUMBER
1638	

DATE MAILED: 03/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/530,209	INZE ET AL.	
	Examiner	Art Unit	
	Cynthia Collins	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 June 2000 and 09 January 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) *5,11-26 and 29* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 6-10 and 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 1-4, 6-10 and 27-28, in Paper No. 17 is acknowledged. The traversal is on the ground(s) that all groups of invention identified in the outstanding Office Action have unity with each other, and that there exists a single general inventive concept specifically describing the unique special technical feature in each group. This is not found persuasive because the groups are not linked by a special technical feature that defines a contribution over the prior art, for the reasons of record set forth in the previous Office Action. Although Applicant asserts that all groups of invention identified in the outstanding Office Action have unity with each other, and that there exists a single general inventive concept specifically describing the unique special technical feature in each group, Applicant does not identify what this unique special technical feature is.

The requirement is still deemed proper and is therefore made FINAL.

Information Disclosure Statement

An initialed and dated copy of Applicant's IDS form 1449, Paper No. 6, is attached to the instant Office action.

Claim Objections

Claims 6, 8, 10, 27 and 28 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and/or cannot depend from any other multiple dependent claim. See MPEP § 608.01(n).

Claims 27-28 are objected to because the claims recite the products of nonelected inventions. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4, 6-10 and 27-28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1, 6-10 and 27-28 are drawn to a DNA sequence encoding a mitogenic cyclin or encoding an immunologically active and/or functional fragment of such a protein, said sequence consisting of sequences comprising (a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2, (b) a nucleotide sequence of SEQ ID NO:1, (c) sequences hybridizing with the complementary strand of a DNA sequence as defined in (a) or (b), (d) sequences encoding an amino acid sequence at least 70% identical to the amino acid sequence of (a) or (b), (e) degenerate nucleotides sequences as defined in any one of (a) to (d), and (f) DNA sequences encoding a fragment of a protein encoded by any one of (a)-(e). Claims 2-4, 6-10 and 27-28 are drawn to mitogenic cyclins and a DNA sequence encoding them.

The instant application describes only an isolated nucleic acid of SEQ ID NO:1 encoding a protein of SEQ ID NO:2 that interacts with CDC2aAt in a yeast two-hybrid assay and that has homology to Arabidopsis D-type cyclins (page 6, page 35 Example 1, and Sequence Listing). The instant application does not describe a mitogenic cyclin function for the protein encoded by SEQ ID NO:2. The instant application does not describe sequences hybridizing to a DNA

sequence of SEQ ID NO:1 or a DNA sequence encoding SEQ ID NO:2. The instant application does not describe DNA sequences encoding an amino acid sequence at least 70% identical to the amino acid sequence of SEQ ID NO:2. The instant application does not describe other novel mitogenic cyclins and DNA sequences encoding them.

Therefore, given the lack of written description in the specification with regard to the structural and physical features of mitogenic cyclins encoded by DNA sequences comprising SEQ ID NO:1 and DNA sequences encoding the amino acid sequence of SEQ ID NO:2, or sequences hybridizing to a DNA sequence of SEQ ID NO:1 or a DNA sequence encoding SEQ ID NO:2 or sequences encoding an amino acid sequence at least 70% identical to the amino acid sequence of SEQ ID NO:2, or DNA sequences encoding mitogenic cyclins, one skilled in the art would not recognize from the disclosure that Applicant was in possession of the claimed invention at the time this application was filed (see Written Description Guidelines, Federal Register, Vol. 66, No. 4, January 5, 2001, pages 1099-1111).

Claims 2, 3, 10 and 28 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims are drawn to a method for identifying and obtaining mitogenic cyclins comprising a two-hybrid screening assay wherein CDC2a as a bait and a cDNA library of a plant cell suspension as a prey are used, a method for the production of a mitogenic cyclin or an immunologically active or functional fragment thereof comprising culturing a host cell of claim 8 or 9 under conditions allowing the expression of the protein and recovering the produced

protein, and a use of a DNA sequence of claim 1 or 4 or the vector of claim 6 or 7 for modulating plant cell cycle, plant cell division and/or growth, for influencing the activity of mitogenic cyclin in a plant cell, as positive or negative regulator of cell proliferation, for modifying growth inhibition caused by environmental stress conditions, or for use in a screening method for the identification of inhibitors or activators of cell cycle proteins.

However, in the instant disclosure, Applicants teach only the isolation of a nucleic acid of SEQ ID NO:1 encoding a protein of SEQ ID NO:2 using a yeast two-hybrid assay with CDC2aAt as bait (page 35 Example 1). The specification also discloses that the protein encoded by SEQ ID NO:1 has homology to other *Arabidopsis* D-type cyclins (page 6). The specification does not disclose any mitogenic cyclin function for the protein encoded by SEQ ID NO:1. The specification does not disclose the isolation of other novel mitogenic cyclins and DNA sequences encoding them. The specification does not disclose the production of any mitogenic cyclin or immunologically active or functional fragment thereof. The specification does not describe any use whatsoever of a DNA sequence of claim 1 or 4 or the vector of claim 6 or 7. While one of skill in the art could readily identify DNA sequences encoding amino acid sequences homologous to SEQ ID NO:2, it would require undue experimentation for one of skill in the art to determine which of those sequences encode a protein having a mitogenic cyclin function.

Guidance for making and using the claimed invention is necessary for enablement because the homology of predicted amino acid sequences to known proteins does not always predict the function of the homologous sequences (Doerks et al. 1998, Trends in Genetics, Vol. 14, No. 6, pages 248-250). Doerks et al. teach that incorrect or incomplete sequence information within a database affects the predictive capacity of the database (Page 248 column 1 paragraph

1). Doerks et al. also teach that query searches may identify shared homology with multiple groups of functionally unrelated proteins (Page 248 column 3 second full paragraph), that regions of shared homology may be nonfunctional regions (Page 248 column 3 third full paragraph), and that the degree of shared homology within a functional region does not always predict a conservation of the functional mechanism of that region (Page 248 column 3 fourth full paragraph). Because the function of the protein of SEQ ID NO:2 has not been demonstrated, the claimed invention is not enabled by the specification in the absence of further guidance or example.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The method as claimed omits a step for identifying and obtaining mitogenic cyclins.

Claims 1, 2, 4, 6, 7, 8, 10, 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite in the recitation of "hybridizing with". It is unclear under what hybridization conditions would yield the DNA sequences. It is suggested that the claim be amended to recite specific hybridization conditions.

Claim 1 is indefinite in the recitation of "functional fragment". It is unclear what function the fragment exhibits - immunological activity or mitogenic cyclin activity.

Claim 1 is indefinite in the recitation of "is at least 70% identical to". The basis for the identity is unclear. It is suggested that the claim be amended to recite "has at least 70% sequence identity to".

Claims 1, 4 and 10 are indefinite in the recitation of "mitogenic cyclin". Many structurally and functionally distinct cyclins are known to participate in mitosis. The claims serve as notice to the public as to where the metes and bounds of Applicant's claimed invention are. Since the phrase is not adequately defined, one skilled in the art would not be able to access the boundaries of the claimed invention. It is suggested that the claims be amended to recite a structurally and functionally distinct type of cyclin.

Claim 6 is indefinite in the recitation of the indefinite article "a" before "DNA sequence". It is suggested that claim 6 be amended to recite "the DNA sequence".

Claim 7 is indefinite in the recitation of "allowing the expression in prokaryotic and/or eukaryotic host cells". It is unclear what is expressed. It is suggested that the claim be amended to recite "allowing the expression of said DNA sequence in prokaryotic and/or eukaryotic host cells".

Claim 8 is indefinite in the recitation of the indefinite article "a" before "vector" and before "DNA sequence". It is suggested that claim 8 be amended to recite "the vector" and "the DNA sequence".

Claim 10 is indefinite in the recitation of the indefinite article "a" before "host cell". It is suggested that claim 10 be amended to recite "the host cell".

Claim 10 is indefinite in the recitation of "functional fragment". It is unclear what function the fragment exhibits - immunological activity or mitogenic cyclin activity.

Claim 27 is indefinite in the recitation of the indefinite article "a" before "DNA sequence" and before "vector". It is suggested that claims 6 and 27 be amended to recite "the DNA sequence" and "the vector".

Claim 27 is indefinite in the recitation of "suitable means for detection". It is unclear what the criteria for suitability would be. It is also unclear what is being detected. It is suggested that the claim be amended to recite a specific means for detection, as well as what is being detected.

Claim 28 is indefinite in the recitation of the indefinite article "a" before "DNA sequence". It is suggested that claim 28 be amended to recite "the DNA sequence".

Claim 28 is indefinite in the recitation of "influencing". It is unclear what the desired result of "influencing" would be.

Claim 28 is indefinite in the recitation of "modifying". It is unclear what the desired effect on growth inhibition would be.

Claim 28 provides for the use of a DNA sequence, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 101 and § 112

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-4 and 8-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims are drawn to "a DNA sequence" encoding a mitogenic cyclin. The DNA sequence as claimed is directed to a product of nature. It is suggested that the claims be amended to recite "an isolated DNA sequence" to overcome the rejection.

Claim 28 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claims 1, 6-10 and 27-28 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a specific asserted utility or a well established utility.

The claims are drawn to a DNA sequence encoding a mitogenic cyclin or encoding an immunologically active and/or functional fragment of such a protein, said sequence consisting of sequences comprising (a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2, (b) a nucleotide sequence of SEQ ID NO:1, (c) sequences hybridizing with the complementary strand of a DNA sequence as defined in (a) or (b), (d) sequences encoding an amino acid sequence at least 70% identical to the amino acid sequence of (a) or (b), (e) degenerate nucleotides sequences as defined in any one of (a) to (d), and (f) DNA sequences encoding a fragment of a protein encoded by any one of (a)-(e).

First, the claims do not recite a specific function for the claimed DNA sequence. Although the claims recite that the DNA encodes a "mitogenic cyclin" protein, it is unclear what the specific function of the protein encoded by the DNA is. In part (c) of claim 1, sequences hybridizing with the complementary strand of a DNA sequence as defined in (a) or (b) would not

necessarily have utility if the hybridization conditions were such that nucleotides essential for function are not present in the hybridizing sequence. Furthermore, in part (d) of claim 1, DNA sequences encoding an amino acid sequence at least 70% identical to the amino acid sequence of (a) or (b) would not necessarily have utility if the 30% lack of sequence identity is in the region essential for function. The claim does not require any essential region, and no such region is disclosed by Applicant. Because the claimed invention is not supported by a specific asserted utility for the reasons set forth above, credibility cannot be assessed.

Secondly, the claimed invention lacks utility because no function has been demonstrated for the protein encoded by the claimed DNA sequence. Although the specification reveals that the amino acid sequence of SEQ ID NO:2 exhibits sequence homology to D-type cyclins from *Arabidopsis* (page 6), no empirical data is provided to support a D-type cyclin function for the protein of SEQ ID NO:2. While empirical data is not required for patentability, the state of the art recognizes that a functional assignment based on sequence comparisons may categorize a protein into a particular class or provide a starting point for verifying protein activity, it does not replace empirical data for confirming protein activity. See Doerks et al. discussed *supra*.

Third, Applicant's claimed DNA sequence lacks substantial utility under current utility guidelines. The specification discloses that "the technical problem underlying the present invention is to provide means and methods for modulating cell cycle proteins that are particular useful in agriculture and plant cell and tissue culture", and that providing the claimed embodiments will achieve the solution to this technical problem (page 4). However, the specification does not disclose any modulation of cell cycle proteins by the protein encoded by the claimed DNA sequence, or any use of this protein in an agricultural or plant cell or tissue

culture context. Applicant does not teach how the claimed DNA sequence or its encoded protein would be substantially beneficial to the public. Although DNA sequences encoding proteins of known function have a well established utility, DNA sequences encoding proteins of unknown function do not. It is apparent that extensive further research, not considered to be routine experimentation, would be required before one of skill in the art would know how to use the claimed invention. It has been established by the courts that a utility which requires or constitutes carrying out further research to identify or reasonably confirm a "real world" context of use is not a substantial utility.

> "The basic quid pro quo contemplated by the Constitution and the Congress for granting a patent monopoly is the benefit derived by the public from an invention with substantial utility. Unless and until a process is refined and developed to this point--where specific benefit exists in currently available form--there is insufficient justification for permitting an applicant to engross what may prove to be a broad field." (*Brenner v. Manson*, 383 U.S. 519 (1966)).

Thus, while mitogenic cyclin activity has substantial benefit to the public, Applicant does not disclose that SEQ ID NO:1 encodes a protein with mitogenic cyclin function, and one skilled in the art cannot conclude that SEQ ID NO:1 encodes a protein with mitogenic cyclin function based upon Applicant's disclosure. Applicant's invention is not refined to the point where specific benefit exists in currently available form. As set forth above, one skilled in the art cannot readily take Applicant's claimed invention and derive immediate benefits from it based upon Applicant's disclosure. Accordingly, the claimed invention lacks a real world use. (see Utility Examination Guidelines published in the Federal Register, Vol. 66, No. 4, Friday, January 5, 2001, Notices, pages 1092-1099).

Claims 1, 6-10 and 27-28 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific asserted utility or a

well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by GenEmbl Accession No. Y10162 (19 June 1997).

Claim 1 is drawn to a DNA sequence encoding a mitogenic cyclin or encoding an immunologically active and/or functional fragment of such a protein, said sequence consisting of sequences comprising (a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2, (b) a nucleotide sequence of SEQ ID NO:1, (c) sequences hybridizing with the complementary strand of a DNA sequence as defined in (a) or (b), (d) sequences encoding an amino acid sequence at least 70% identical to the amino acid sequence of (a) or (b), (e) degenerate nucleotides sequences as defined in any one of (a) to (d), and (f) DNA sequences encoding a fragment of a protein encoded by any one of (a)-(e).

GenEmbl Accession No. Y10162 teaches (c) sequences hybridizing with the complementary strand of a DNA sequence as defined in (a) or (b), (e) degenerate nucleotide sequences as defined in any one of (a) to (d), and (f) DNA sequences encoding a fragment of a protein encoded by any one of (a)-(e).

Accordingly, claim 1 is anticipated by GenEmbl Accession No. Y10162.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6-10 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over De Veylder et al. (4 August 1997, FEBS Letters Vol. 412 No. 3, pages 446-452, Applicant's IDS) in view of Fuerst et al. (November 1996, Plant Physiology, Vol. 112, No. 3, pages 1023-1033).

Claim 1 is drawn to a DNA sequence encoding a mitogenic cyclin or encoding an immunologically active and/or functional fragment of such a protein, said sequence consisting of sequences comprising (a) a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:2, (b) a nucleotide sequence of SEQ ID NO:1, (c) sequences hybridizing with the complementary strand of a DNA sequence as defined in (a) or (b), (d) sequences encoding an amino acid sequence at least 70% identical to the amino acid sequence of (a) or (b), (e) degenerate nucleotides sequences as defined in any one of (a) to (d), and (f) DNA sequences encoding a fragment of a protein encoded by any one of (a)-(e). Claims 2-4, 6-10 and 27 are drawn to a method for identifying and obtaining mitogenic cyclins comprising a two-hybrid screening assay wherein CDC2aAt is used as the bait, and a cDNA library of a plant cell suspension is used as prey, to a DNA sequence encoding a mitogenic cyclin obtainable by said method, to a vector comprising said DNA sequence, to a host cell comprising said vector, to a method for the production of a mitogenic cyclin comprising culturing said host cell under

conditions allowing expression followed by recovering the produced protein, and to a diagnostic composition comprising said DNA sequence.

De Veylder et al. teach a DNA sequence comprising (c) sequences hybridizing with the complementary strand of a DNA sequence as defined in (a) or (b), (e) degenerate nucleotide sequences as defined in any one of (a) to (d), and (f) DNA sequences encoding a fragment of a protein encoded by any one of (a)-(e). De Veylder et al. also teach a method comprising a two-hybrid screening assay wherein CDC2aAt is used as the bait, a DNA sequence obtainable by said method, a vector comprising said DNA sequence, a host cell comprising said vector, a method comprising culturing said host cell under conditional allowing expression followed by recovering the produced protein, and a diagnostic composition comprising said DNA sequence (*Materials and Methods* pages 446-447).

De Veylder et al. do not teach a cDNA library of a plant cell suspension as prey.

Fuerst et al. teach the accumulation of mitotic cyclin RNA transcripts in synchronized *Arabidopsis* suspension cultures (page 1028 Figure 7).

Given that it is well established in the art that cyclins associate with cyclin-dependent kinases, such as CDC2aAt, it would have been *prima facie* obvious to one skilled in the art at the time the invention was made to identify and obtain a mitogenic cyclin using the method taught by De Veylder et al., without any surprising or unexpected results. Furthermore, it would have been obvious to use as prey a cDNA library made from a plant cell suspension that accumulates mitotic cyclin RNA transcripts as taught by Fuerst et al., given the express goal of identifying and obtaining mitotic cyclins. Accordingly, one skilled in the art would have been motivated to generate the claimed invention with a reasonable expectation of success. Thus, the claimed

invention would have been *prima facie* obvious as a whole to one of ordinary skill in the art at the time the invention was made, especially in the absence of evidence to the contrary.

Remarks

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (703) 605-1210. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

CC
March 15, 2002

PHUONG T. BUI
PRIMARY EXAMINER